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Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	Rational	-----	1.401	1.662	-----	2.036	2.306	2.692	2.986	3.289	DA1-R5
2	Rational	-----	6.114	7.253	-----	8.884	10.06	11.75	13.03	14.35	DA2-R5
3	Rational	-----	2.275	2.700	-----	3.307	3.746	4.373	4.850	5.342	DAOFFSITE-R5
4	Rational	-----	2.648	3.142	-----	3.848	4.359	5.089	5.645	6.217	DA3-R5
5	Combine	2, 3,	8.389	9.953	-----	12.19	13.81	16.12	17.88	19.70	ADD DA2 & DAOFFSITE
6	Combine	1, 5	9.790	11.61	-----	14.23	16.12	18.81	20.87	22.99	ADD DA1, DA2, & DAOFFSITE
7	Reservoir	6	0.000	0.000	-----	0.000	0.000	0.000	0.000	0.000	THROUGH POND
8	Combine	4, 7	2.648	3.142	-----	3.848	4.359	5.089	5.645	6.217	COMBINE OUTFALL TO DA3
9	Reservoir	8	2.648	3.142	-----	3.848	4.359	5.089	5.644	6.217	OFFSITE TO EAST

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	Rational	2.036	1	75	0.210	---	----	----	DA1-R5
2	Rational	8.884	1	75	0.918	---	----	----	DA2-R5
3	Rational	3.307	1	75	0.342	---	----	----	DAOFFSITE-R5
4	Rational	3.848	1	75	0.398	---	----	----	DA3-R5
5	Combine	12.19	1	75	1.259	2, 3,	----	----	ADD DA2 & DAOFFSITE
6	Combine	14.23	1	75	1.470	1, 5	----	----	ADD DA1, DA2, & DAOFFSITE
7	Reservoir	0.000	1	0	0.000	6	1351.24	1.470	THROUGH POND
8	Combine	3.848	1	75	0.398	4, 7	----	----	COMBINE OUTFALL TO DA3
9	Reservoir	3.848	1	75	0.398	8	1348.94	0.000	OFFSITE TO EAST
Exist Drainage 5YEAR-REV.gpw					Return Period: 5 Year		Monday, Aug 28 2006		1874

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

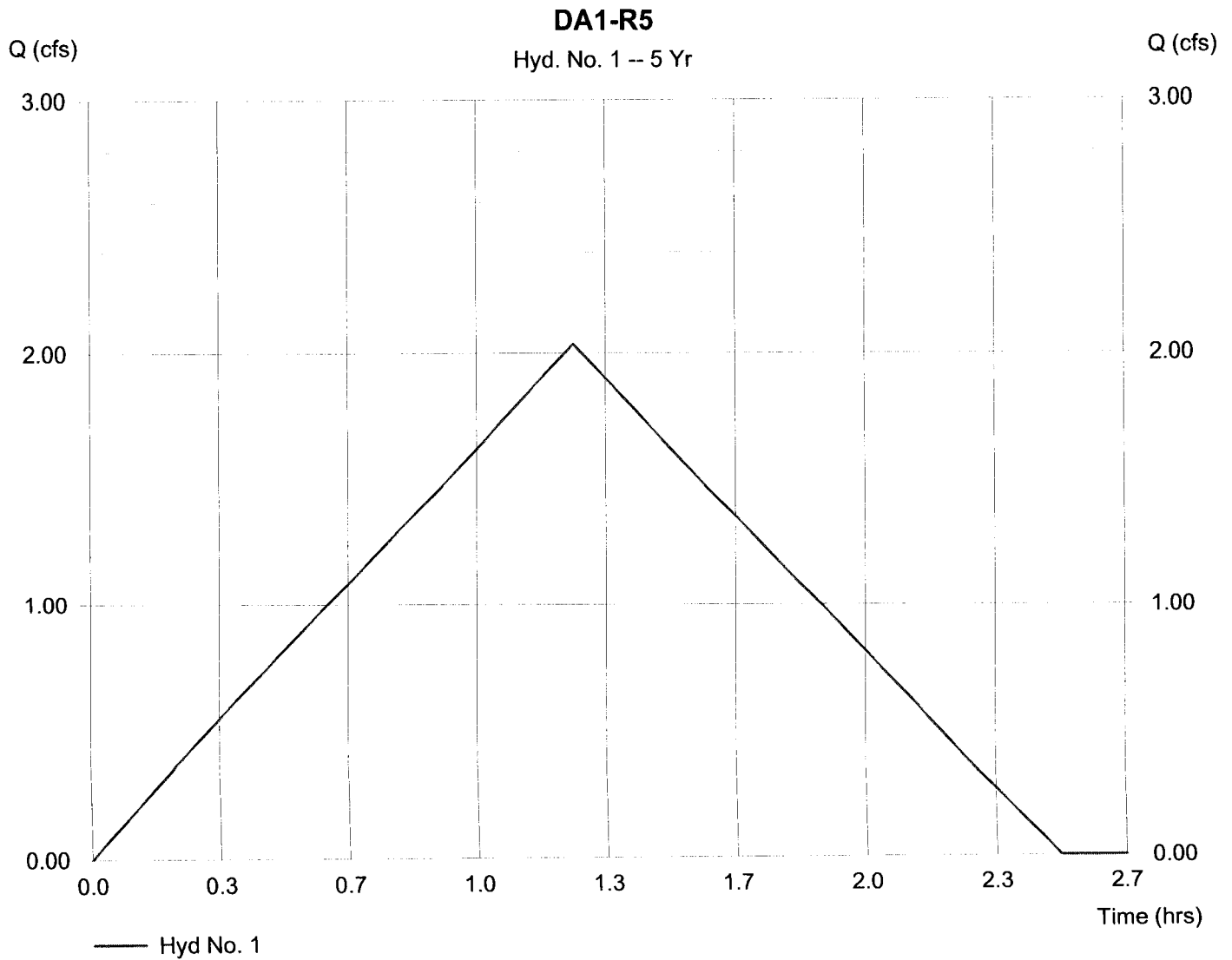
Hyd. No. 1

DA1-R5

Hydrograph type = Rational
Storm frequency = 5 yrs
Drainage area = 1.323 ac
Intensity = 4.663 in/hr
IDF Curve = SedgwickCo.IDF

Peak discharge = 2.036 cfs
Time interval = 1 min
Runoff coeff. = 0.33
Tc by User = 15.00 min
Asc/Rec limb fact = 5/5

Hydrograph Volume = 0.210 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

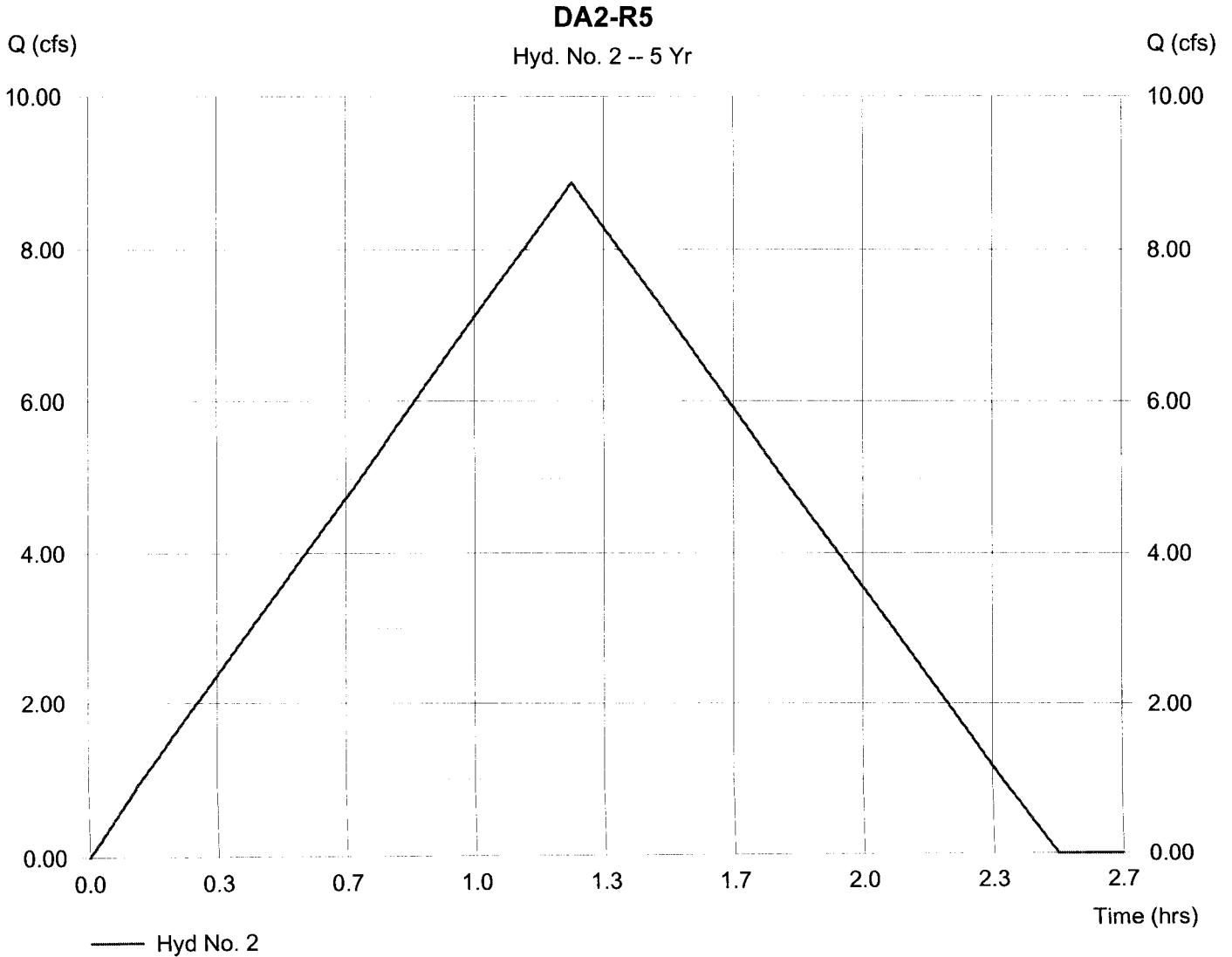
Hyd. No. 2

DA2-R5

Hydrograph type = Rational
 Storm frequency = 5 yrs
 Drainage area = 5.774 ac
 Intensity = 4.663 in/hr
 IDF Curve = SedgwickCo.IDF

Peak discharge = 8.884 cfs
 Time interval = 1 min
 Runoff coeff. = 0.33
 Tc by User = 15.00 min
 Asc/Rec limb fact = 5/5

Hydrograph Volume = 0.918 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

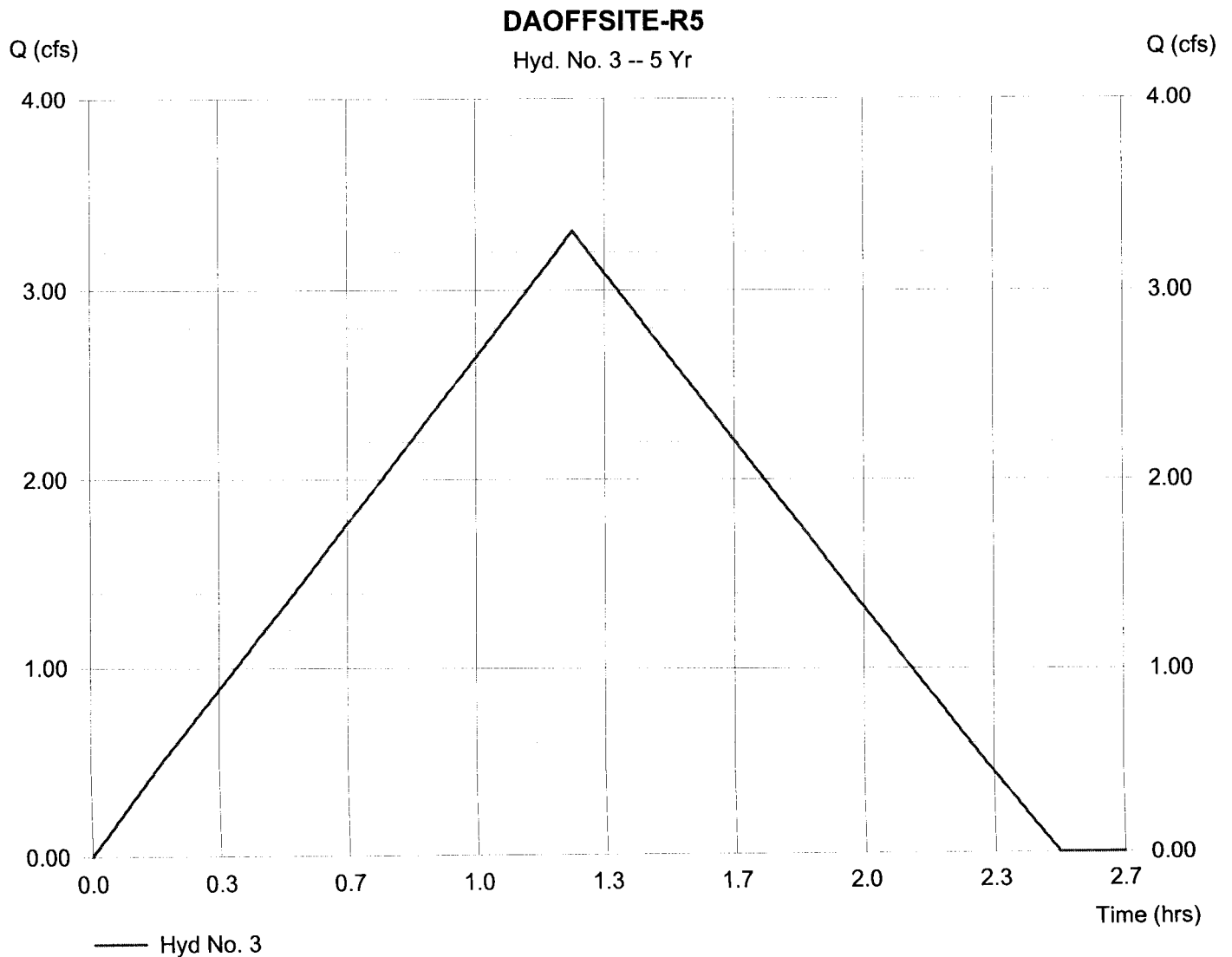
Hyd. No. 3

DAOFFSITE-R5

Hydrograph type = Rational
Storm frequency = 5 yrs
Drainage area = 2.149 ac
Intensity = 4.663 in/hr
IDF Curve = SedgwickCo.IDF

Peak discharge = 3.307 cfs
Time interval = 1 min
Runoff coeff. = 0.33
Tc by User = 15.00 min
Asc/Rec limb fact = 5/5

Hydrograph Volume = 0.342 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

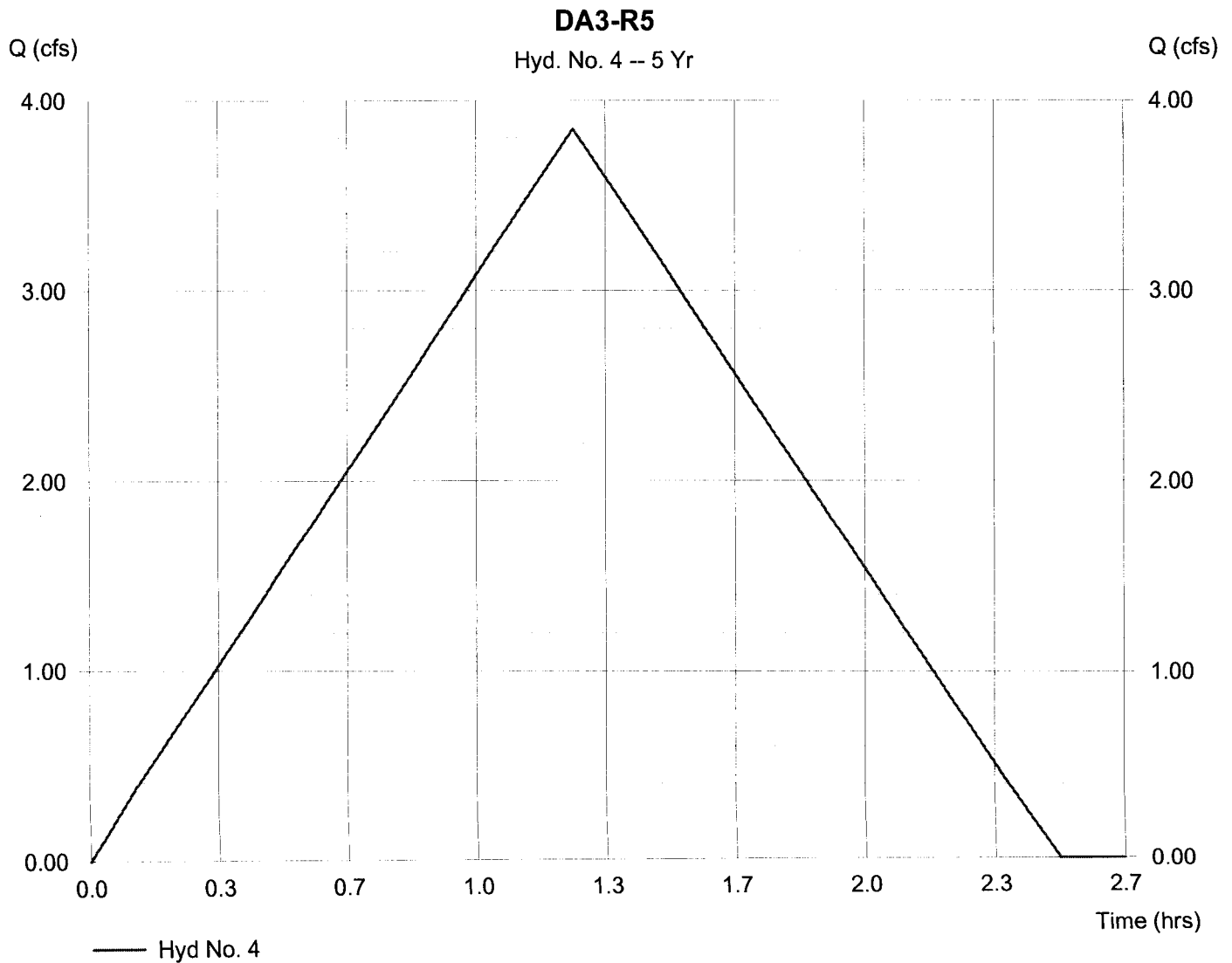
Hyd. No. 4

DA3-R5

Hydrograph type = Rational
 Storm frequency = 5 yrs
 Drainage area = 2.501 ac
 Intensity = 4.663 in/hr
 IDF Curve = SedgwickCo.IDF

Peak discharge = 3.848 cfs
 Time interval = 1 min
 Runoff coeff. = 0.33
 Tc by User = 15.00 min
 Asc/Rec limb fact = 5/5

Hydrograph Volume = 0.398 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

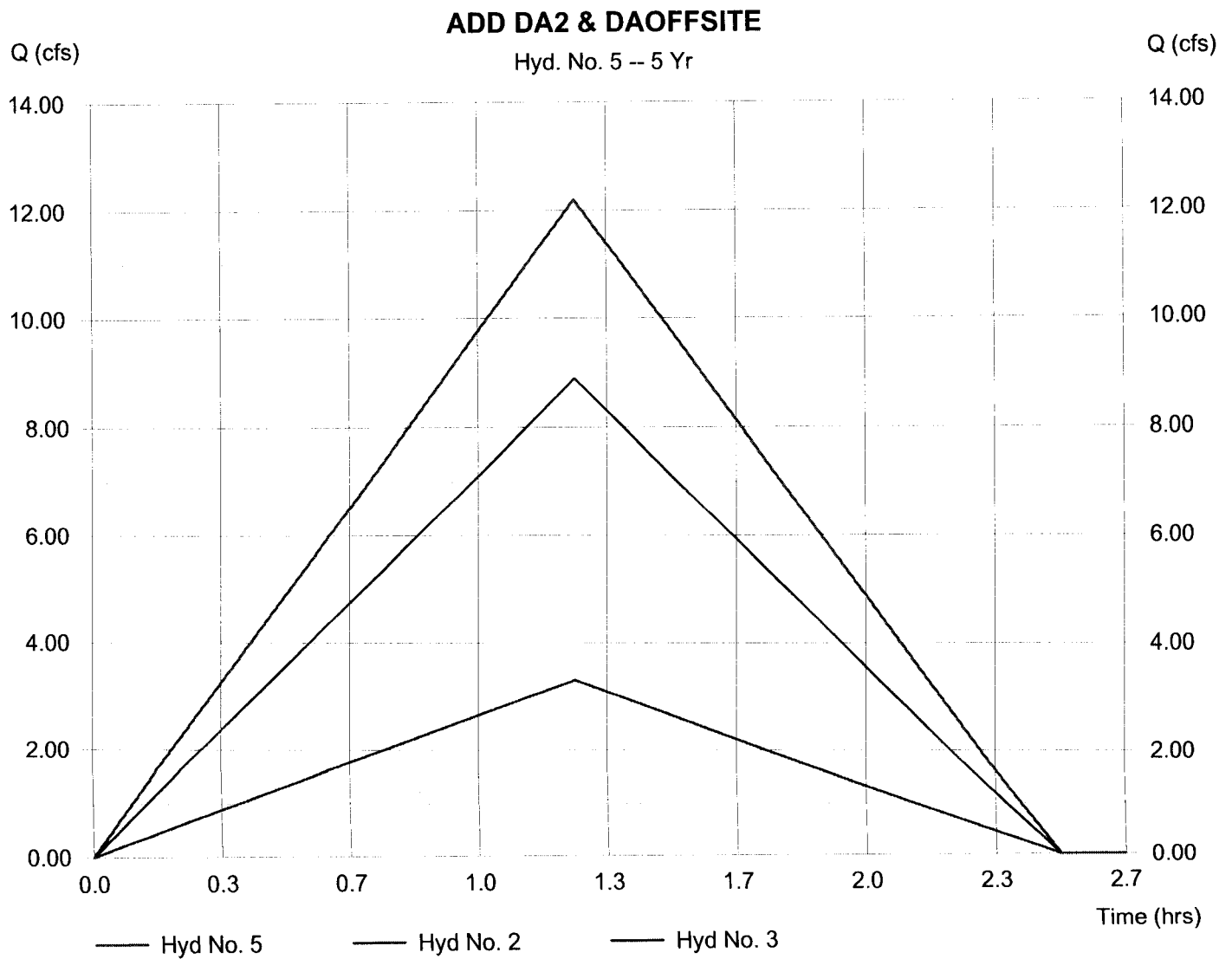
Hyd. No. 5

ADD DA2 & DAOFFSITE

Hydrograph type = Combine
Storm frequency = 5 yrs
Inflow hyds. = 2, 3

Peak discharge = 12.19 cfs
Time interval = 1 min

Hydrograph Volume = 1.259 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

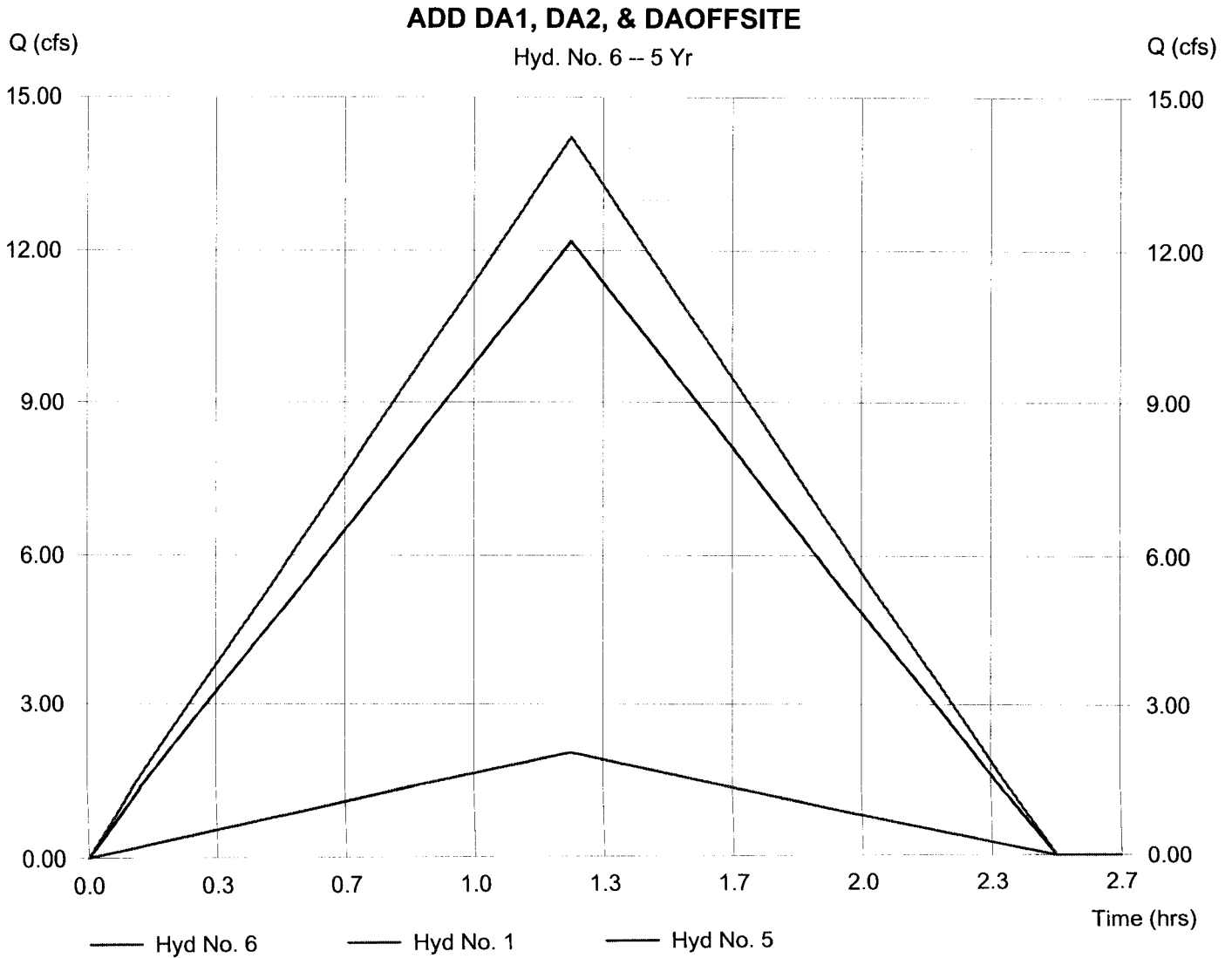
Hyd. No. 6

ADD DA1, DA2, & DAOFFSITE

Hydrograph type = Combine
Storm frequency = 5 yrs
Inflow hyds. = 1, 5

Peak discharge = 14.23 cfs
Time interval = 1 min

Hydrograph Volume = 1.470 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

Hyd. No. 7

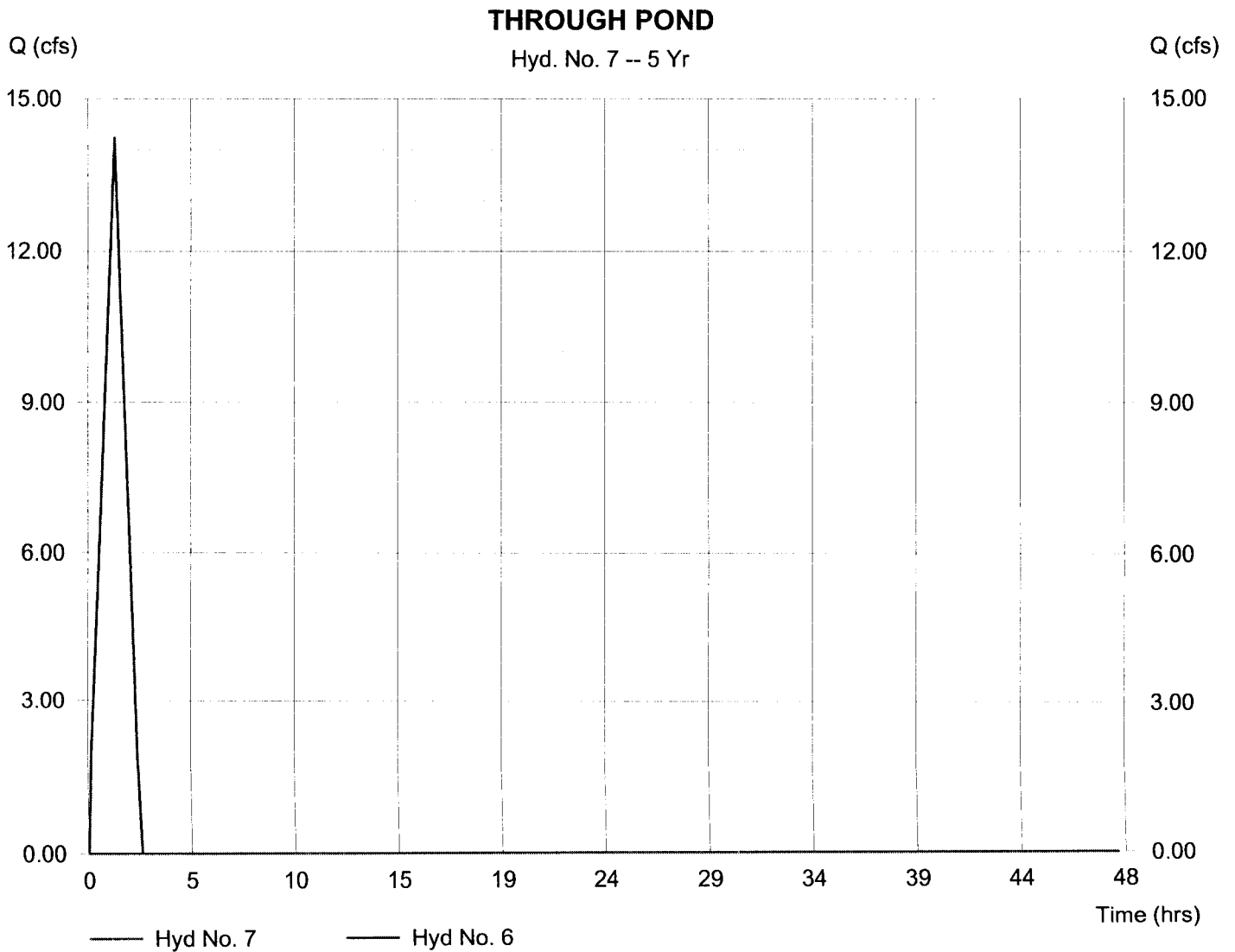
THROUGH POND

Hydrograph type = Reservoir
 Storm frequency = 5 yrs
 Inflow hyd. No. = 6
 Reservoir name = EXISTING POND

Peak discharge = 0.000 cfs
 Time interval = 1 min
 Max. Elevation = 1351.24 ft
 Max. Storage = 1.470 acft

Storage Indication method used.

Hydrograph Volume = 0.000 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

Pond No. 1 - EXISTING POND

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1345.00	906	0.000	0.000
1.00	1346.00	4,498	0.062	0.062
2.00	1347.00	6,552	0.127	0.189
3.00	1348.00	9,311	0.182	0.371
4.00	1349.00	14,167	0.269	0.640
5.00	1350.00	15,851	0.345	0.985
6.00	1351.00	17,467	0.382	1.367
7.00	1352.00	19,121	0.420	1.787
8.00	1353.00	20,819	0.458	2.246
9.00	1354.00	22,562	0.498	2.744
10.00	1355.00	35,073	0.662	3.405
11.00	1356.00	43,626	0.903	4.309

Culvert / Orifice Structures

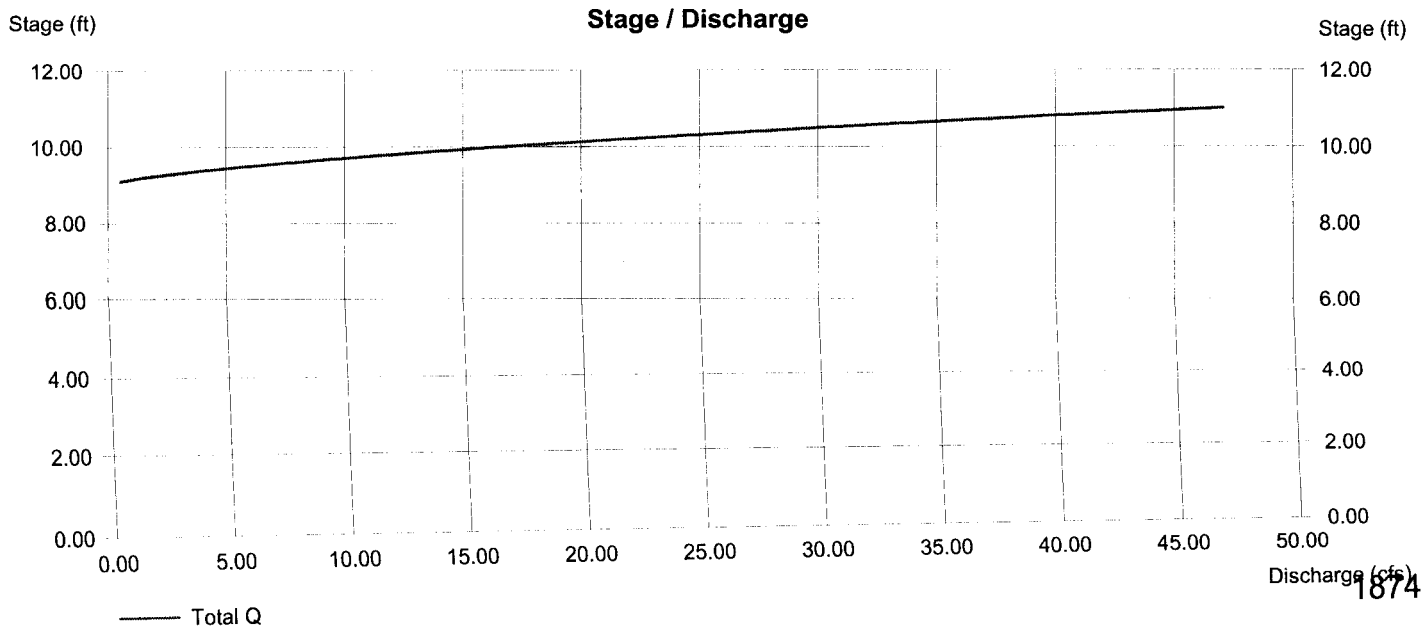
	[A]	[B]	[C]	[D]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1354.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Cipolti	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

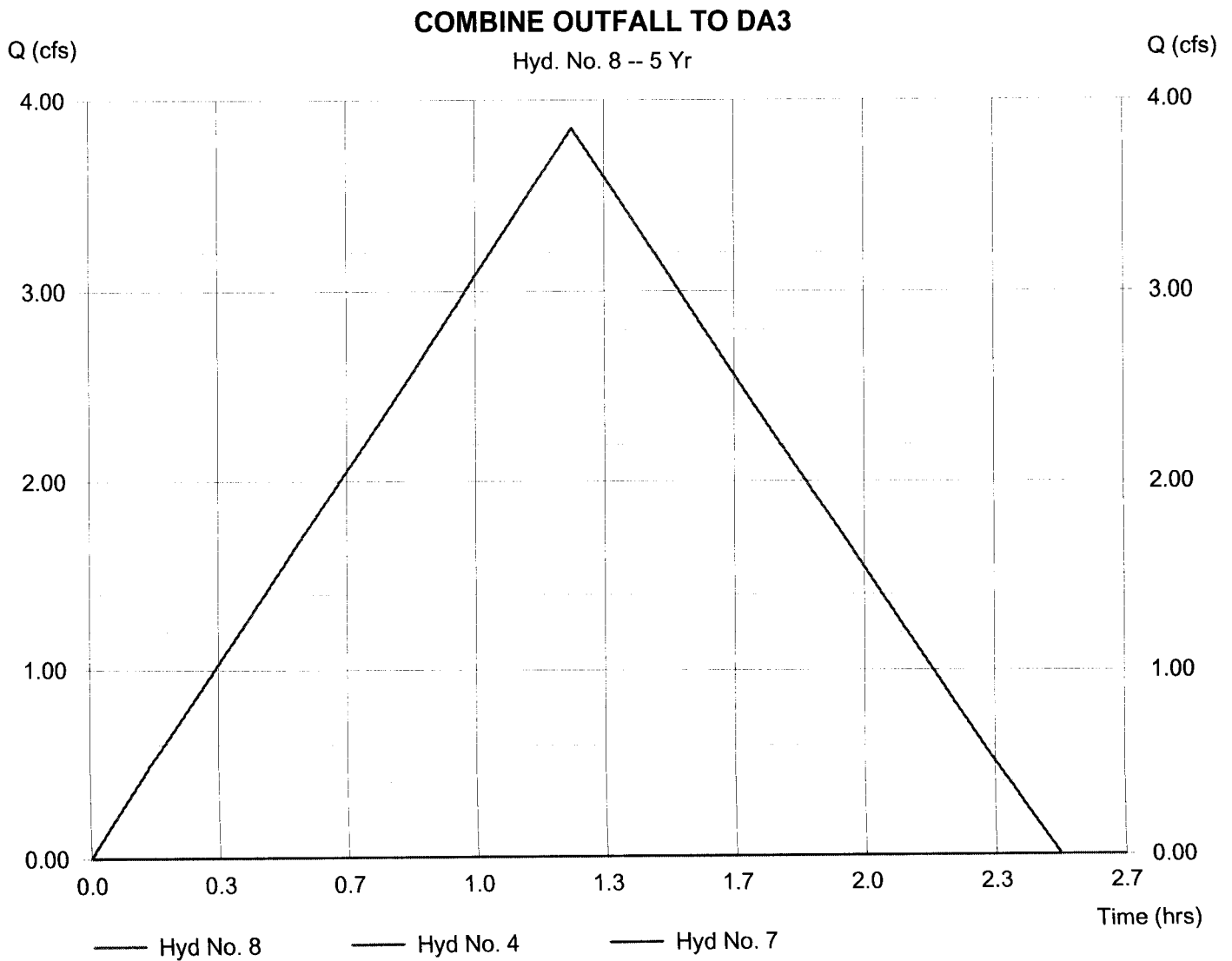
Hyd. No. 8

COMBINE OUTFALL TO DA3

Hydrograph type = Combine
 Storm frequency = 5 yrs
 Inflow hyds. = 4, 7

Peak discharge = 3.848 cfs
 Time interval = 1 min

Hydrograph Volume = 0.398 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

Hyd. No. 9

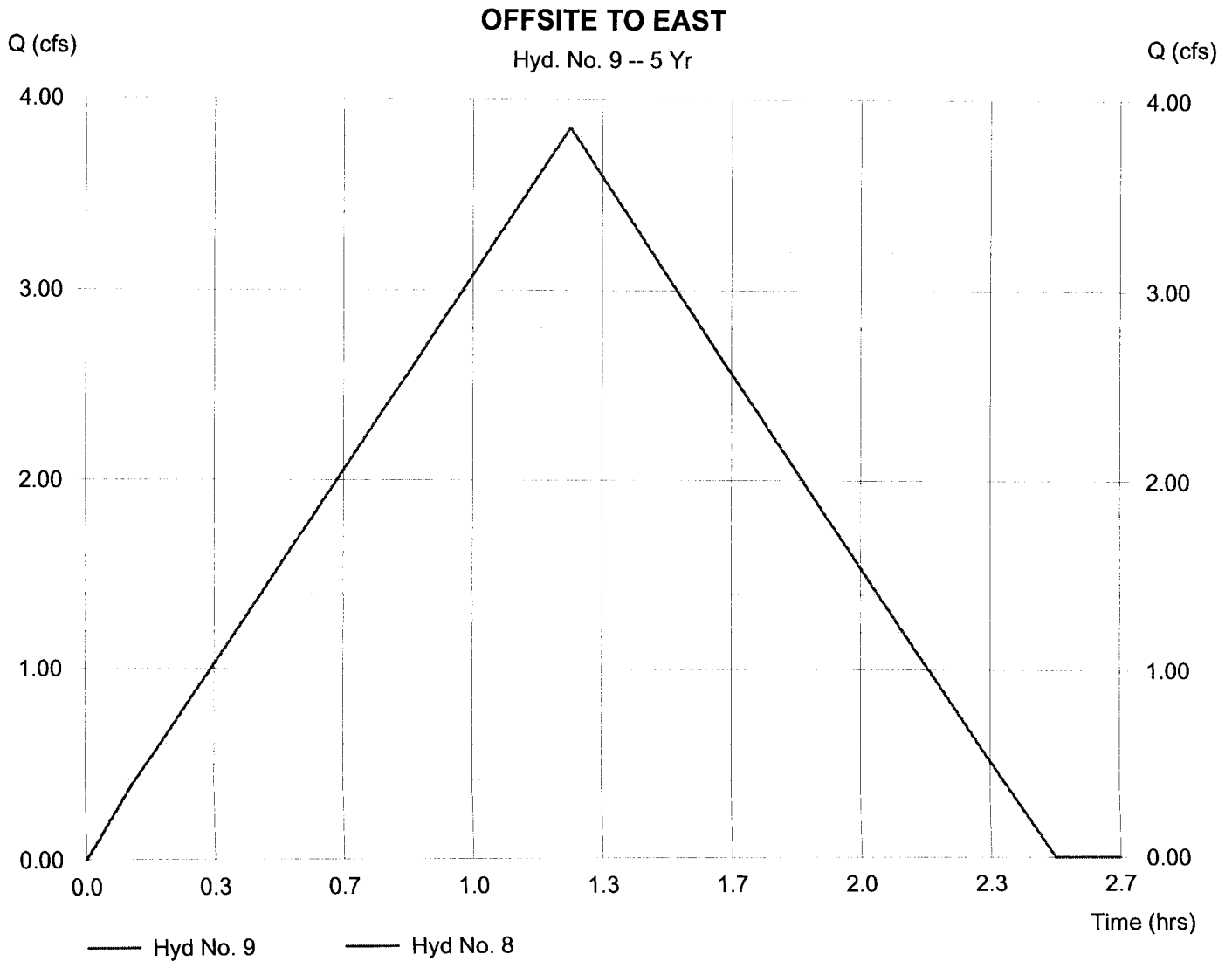
OFFSITE TO EAST

Hydrograph type = Reservoir
Storm frequency = 5 yrs
Inflow hyd. No. = 8
Reservoir name = To Offsite

Peak discharge = 3.848 cfs
Time interval = 1 min
Max. Elevation = 1348.94 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 0.398 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 2:55 PM

Pond No. 2 - To Offsite

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1348.50	01	0.000	0.000
1.00	1349.50	01	0.000	0.000
2.00	1350.50	01	0.000	0.000
3.00	1351.50	01	0.000	0.000
4.00	1352.50	01	0.000	0.000

Culvert / Orifice Structures

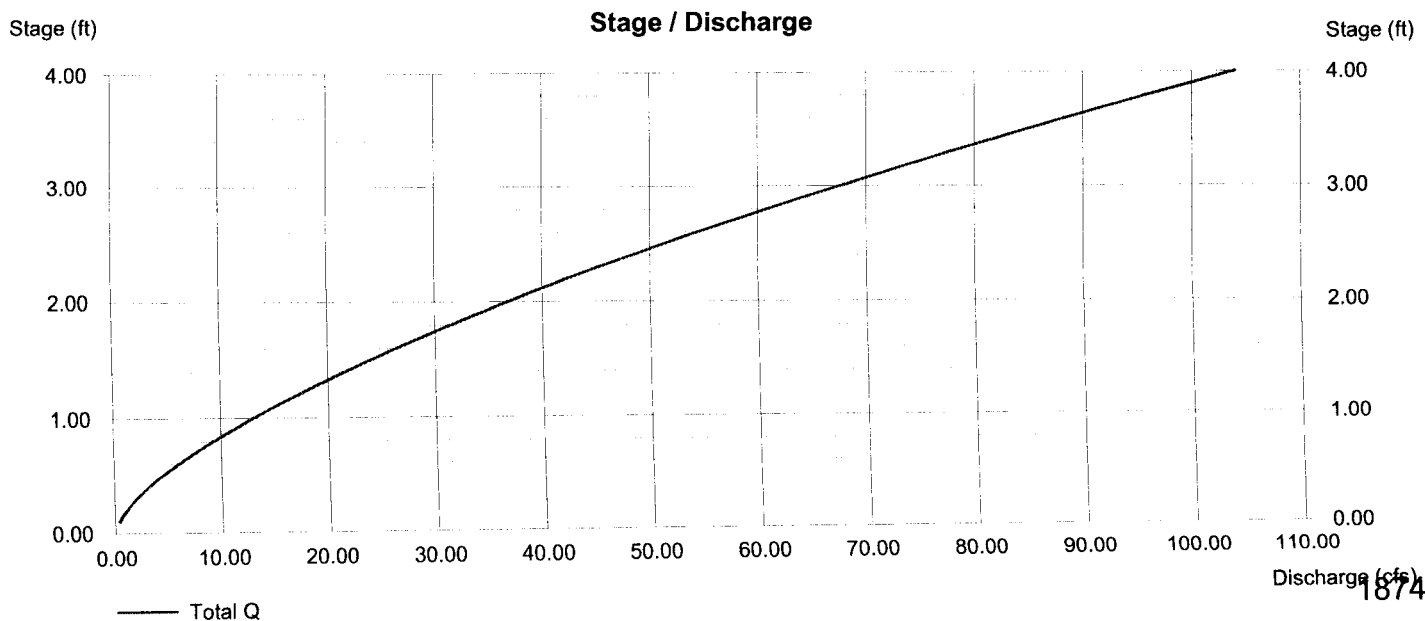
	[A]	[B]	[C]	[D]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1348.50	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.



Discharge (cfs) 1874

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Hydrograph Return Period Recap

Hyd. No.	Hydrograph type (origin)	Inflow Hyd(s)	Peak Outflow (cfs)								Hydrograph description
			1-Yr	2-Yr	3-Yr	5-Yr	10-Yr	25-Yr	50-Yr	100-Yr	
1	Rational	-----	2.420	2.871	-----	3.516	3.983	4.650	5.158	5.681	DA1-R100
2	Rational	-----	10.56	12.53	-----	15.35	17.38	20.29	22.51	24.79	DA2-R100
3	Rational	-----	3.930	4.663	-----	5.711	6.470	7.553	8.378	9.228	DAOFFSITE-R100
4	Rational	-----	4.574	5.427	-----	6.647	7.530	8.790	9.750	10.74	DA3-R100
5	Combine	2, 3,	14.49	17.19	-----	21.06	23.85	27.85	30.89	34.02	ADD DA2 & DAOFFSITE
6	Combine	1, 5	16.91	20.06	-----	24.57	27.84	32.50	36.04	39.70	ADD DA1, DA2, & DAOFFSITE
7	Reservoir	6	0.000	0.000	-----	0.000	1.927	9.324	14.32	19.17	THROUGH POND
8	Combine	4, 7	4.574	5.427	-----	6.647	7.530	12.06	18.41	24.57	COMBINE OUTFALL TO DA3
9	Reservoir	8	4.574	5.427	-----	6.646	7.530	12.06	18.40	24.57	OFFSITE TO EAST

Hydrograph Summary Report

Hyd. No.	Hydrograph type (origin)	Peak flow (cfs)	Time interval (min)	Time to peak (min)	Volume (acft)	Inflow hyd(s)	Maximum elevation (ft)	Maximum storage (acft)	Hydrograph description
1	Rational	5.681	1	75	0.587	---	----	----	DA1-R100
2	Rational	24.79	1	75	2.561	---	----	----	DA2-R100
3	Rational	9.228	1	75	0.953	---	----	----	DAOFFSITE-R100
4	Rational	10.74	1	75	1.109	---	----	----	DA3-R100
5	Combine	34.02	1	75	3.515	2, 3,	----	----	ADD DA2 & DAOFFSITE
6	Combine	39.70	1	75	4.101	1, 5	----	----	ADD DA1, DA2, & DAOFFSITE
7	Reservoir	19.17	1	114	1.358	6	1354.69	3.202	THROUGH POND
8	Combine	24.57	1	111	2.467	4, 7	----	----	COMBINE OUTFALL TO DA3
9	Reservoir	24.57	1	111	2.467	8	1350.03	0.000	OFFSITE TO EAST
Exist Drainage 100YEAR-REV.gpw Return Period: 100 Year								Monday, Aug 28 2006	1874

Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

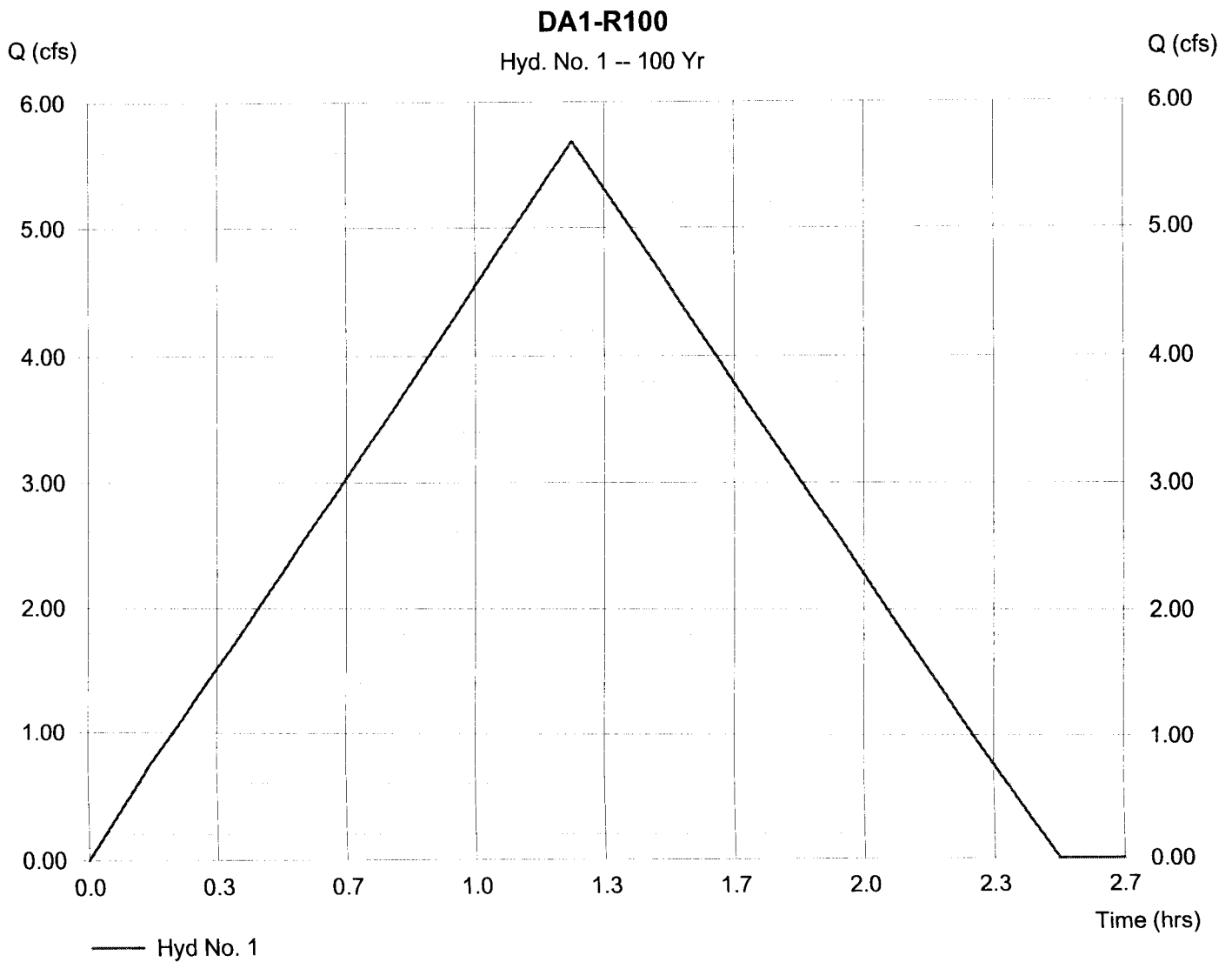
Hyd. No. 1

DA1-R100

Hydrograph type = Rational
 Storm frequency = 100 yrs
 Drainage area = 1.323 ac
 Intensity = 7.533 in/hr
 IDF Curve = SedgwickCo.IDF

Peak discharge = 5.681 cfs
 Time interval = 1 min
 Runoff coeff. = 0.57
 Tc by User = 15.00 min
 Asc/Rec limb fact = 5/5

Hydrograph Volume = 0.587 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

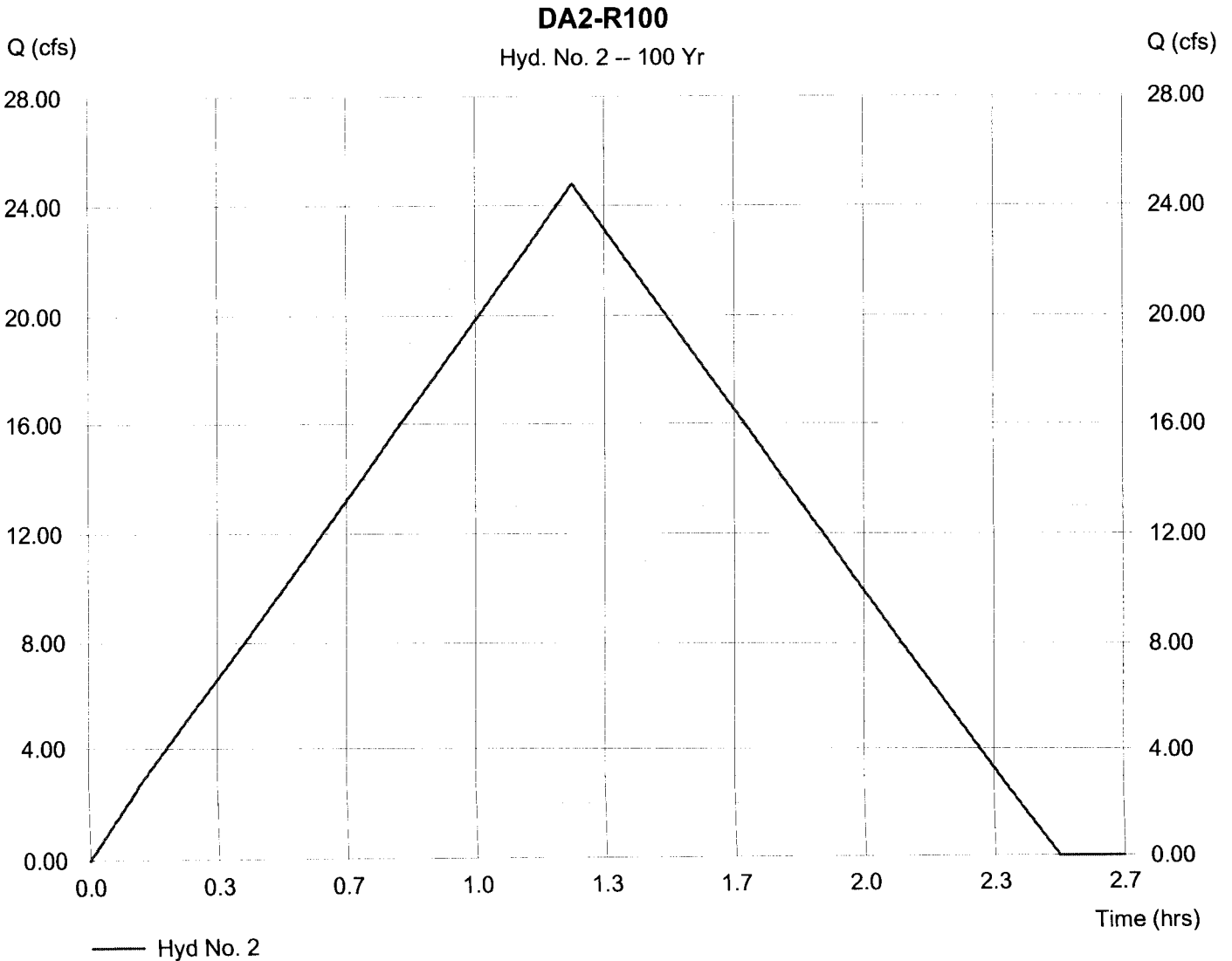
Hyd. No. 2

DA2-R100

Hydrograph type = Rational
 Storm frequency = 100 yrs
 Drainage area = 5.774 ac
 Intensity = 7.533 in/hr
 IDF Curve = SedgwickCo.IDF

Peak discharge = 24.79 cfs
 Time interval = 1 min
 Runoff coeff. = 0.57
 Tc by User = 15.00 min
 Asc/Rec limb fact = 5/5

Hydrograph Volume = 2.561 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

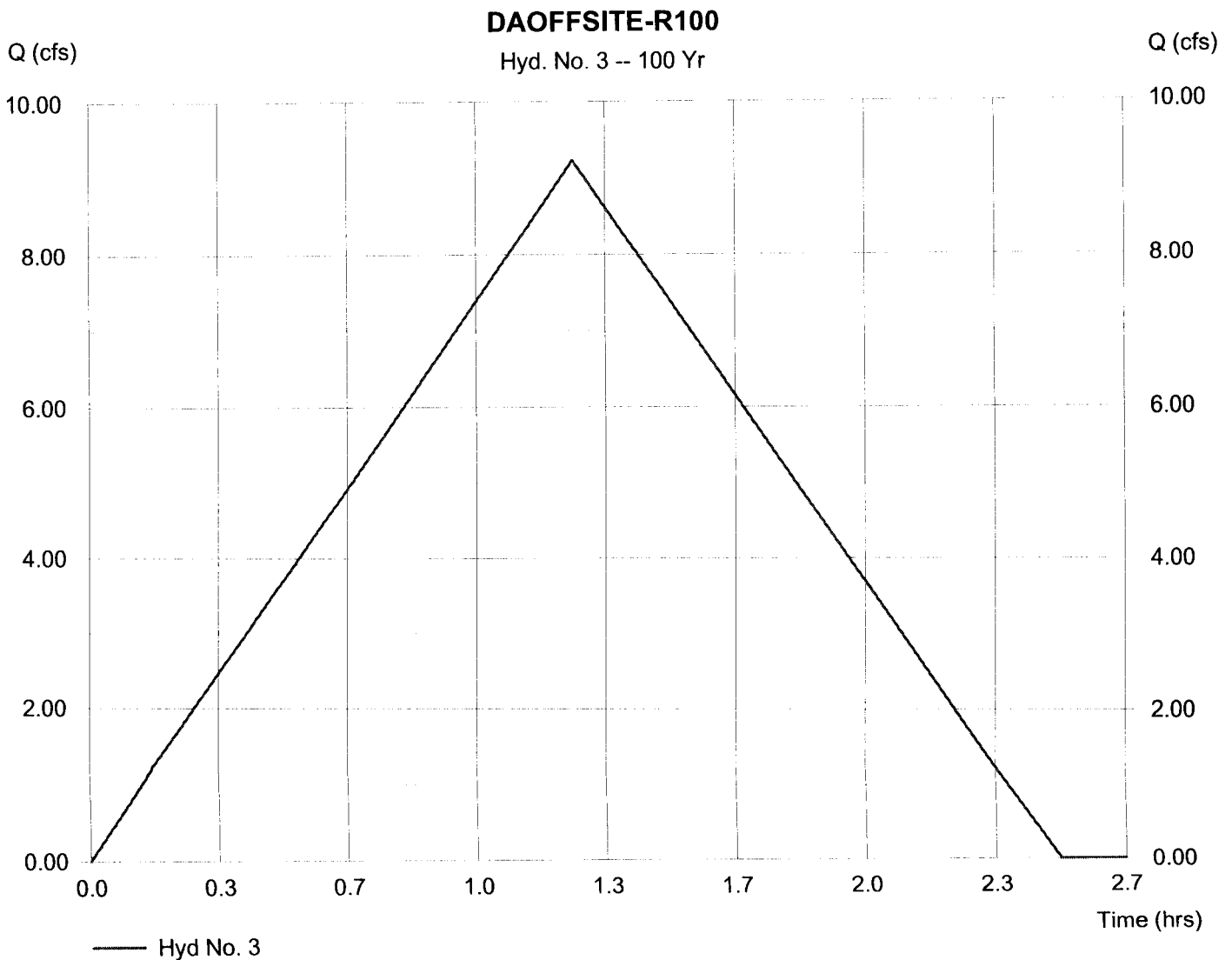
Hyd. No. 3

DAOFFSITE-R100

Hydrograph type = Rational
 Storm frequency = 100 yrs
 Drainage area = 2.149 ac
 Intensity = 7.533 in/hr
 IDF Curve = SedgwickCo.IDF

Peak discharge = 9.228 cfs
 Time interval = 1 min
 Runoff coeff. = 0.57
 Tc by User = 15.00 min
 Asc/Rec limb fact = 5/5

Hydrograph Volume = 0.953 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

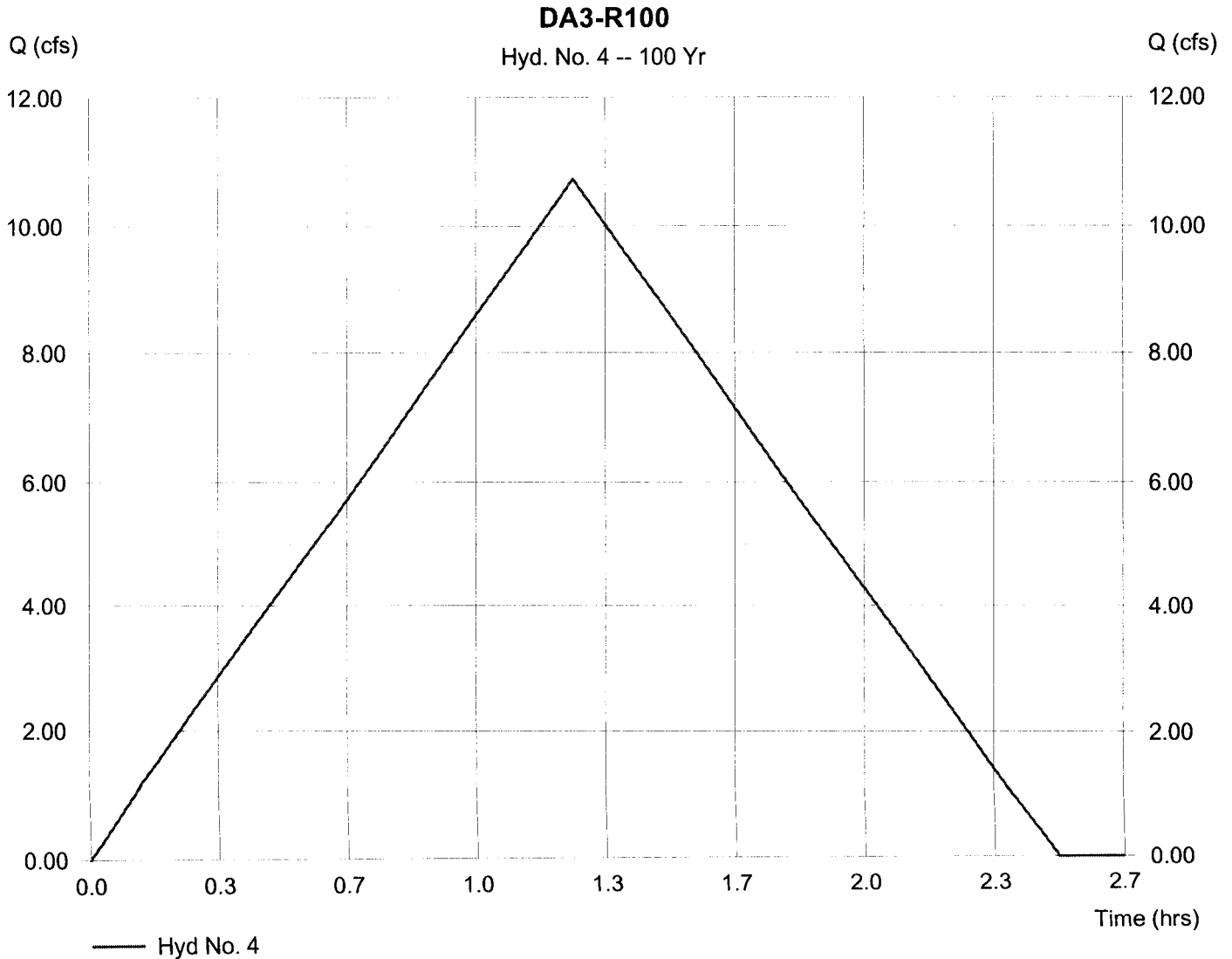
Hyd. No. 4

DA3-R100

Hydrograph type = Rational
 Storm frequency = 100 yrs
 Drainage area = 2.501 ac
 Intensity = 7.533 in/hr
 IDF Curve = SedgwickCo.IDF

Peak discharge = 10.74 cfs
 Time interval = 1 min
 Runoff coeff. = 0.57
 Tc by User = 15.00 min
 Asc/Rec limb fact = 5/5

Hydrograph Volume = 1.109 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

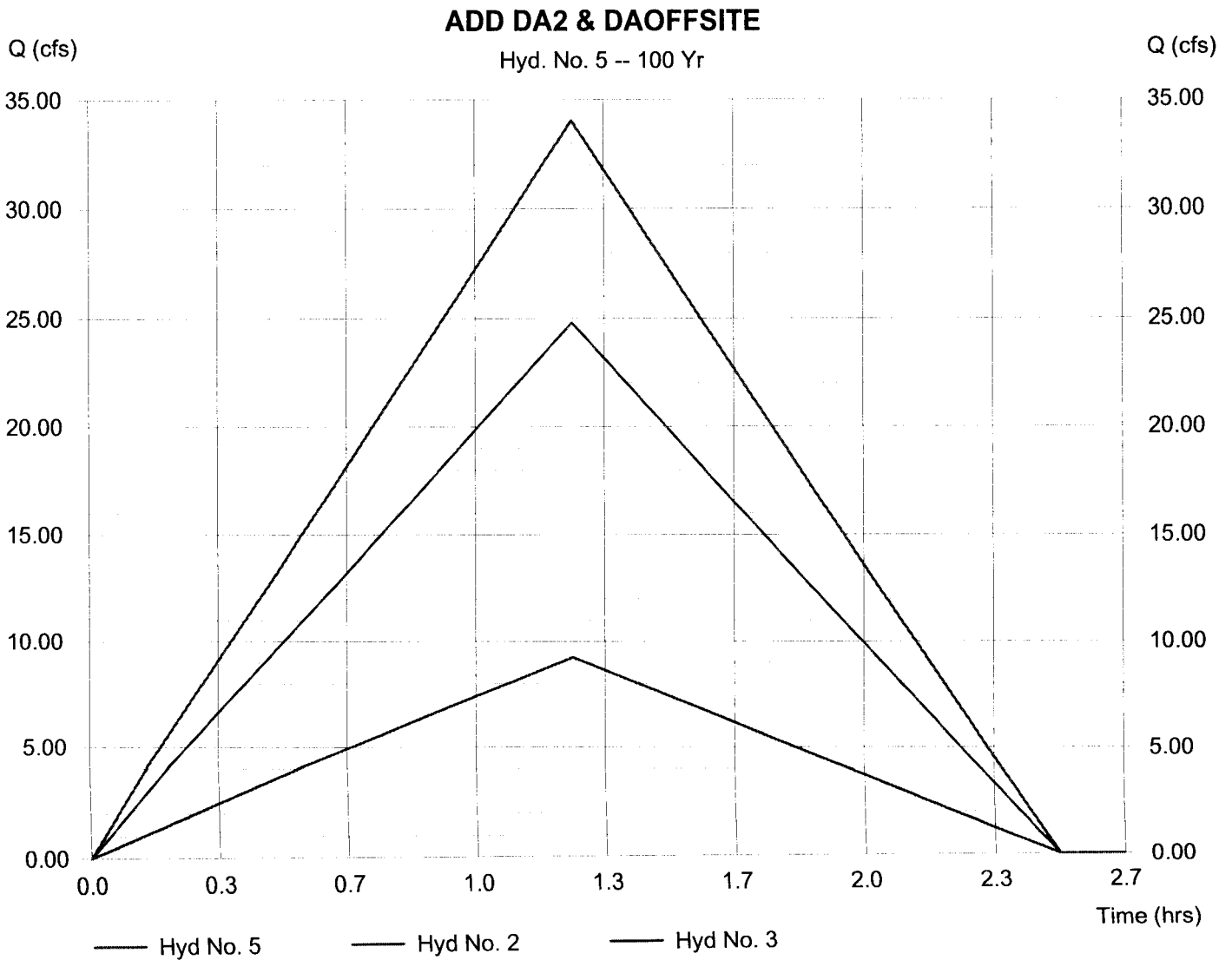
Hyd. No. 5

ADD DA2 & DAOFFSITE

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 2, 3

Peak discharge = 34.02 cfs
Time interval = 1 min

Hydrograph Volume = 3.515 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

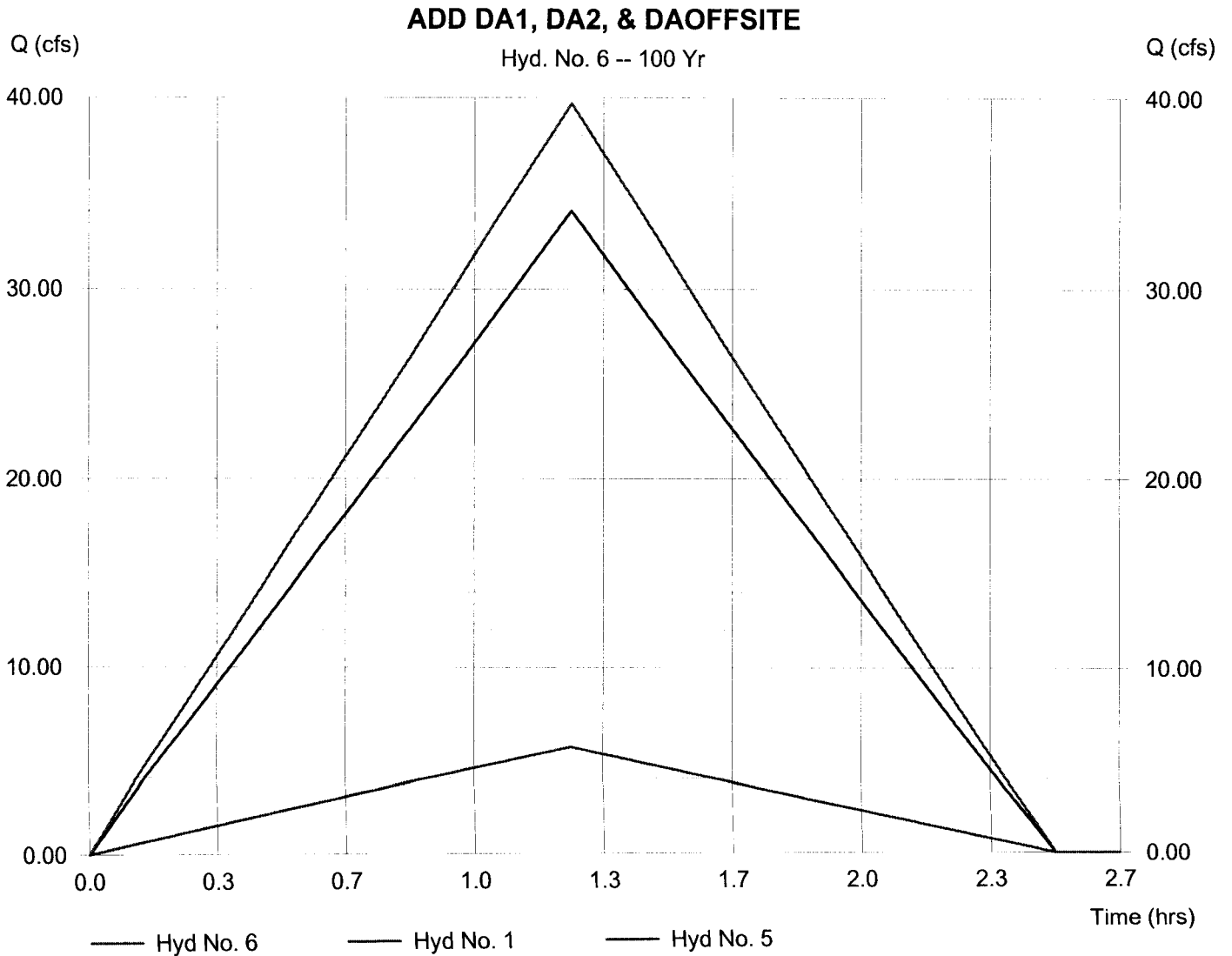
Hyd. No. 6

ADD DA1, DA2, & DAOFFSITE

Hydrograph type = Combine
Storm frequency = 100 yrs
Inflow hyds. = 1, 5

Peak discharge = 39.70 cfs
Time interval = 1 min

Hydrograph Volume = 4.101 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

Hyd. No. 7

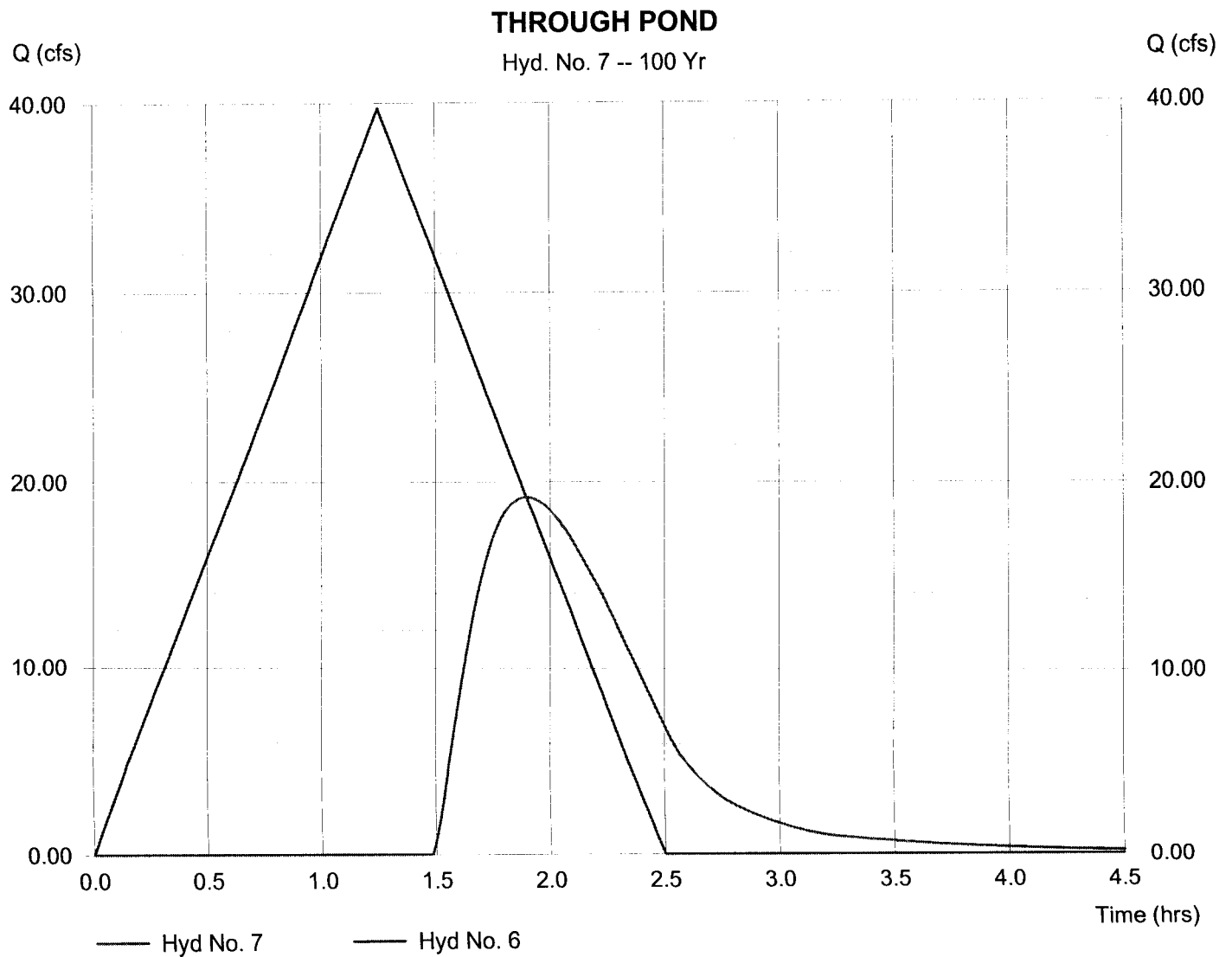
THROUGH POND

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 6
Reservoir name = EXISTING POND

Peak discharge = 19.17 cfs
Time interval = 1 min
Max. Elevation = 1354.69 ft
Max. Storage = 3.202 acft

Storage Indication method used.

Hydrograph Volume = 1.358 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

Pond No. 1 - EXISTING POND

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1345.00	906	0.000	0.000
1.00	1346.00	4,498	0.062	0.062
2.00	1347.00	6,552	0.127	0.189
3.00	1348.00	9,311	0.182	0.371
4.00	1349.00	14,167	0.269	0.640
5.00	1350.00	15,851	0.345	0.985
6.00	1351.00	17,467	0.382	1.367
7.00	1352.00	19,121	0.420	1.787
8.00	1353.00	20,819	0.458	2.246
9.00	1354.00	22,562	0.498	2.744
10.00	1355.00	35,073	0.662	3.405
11.00	1356.00	43,626	0.903	4.309

Culvert / Orifice Structures

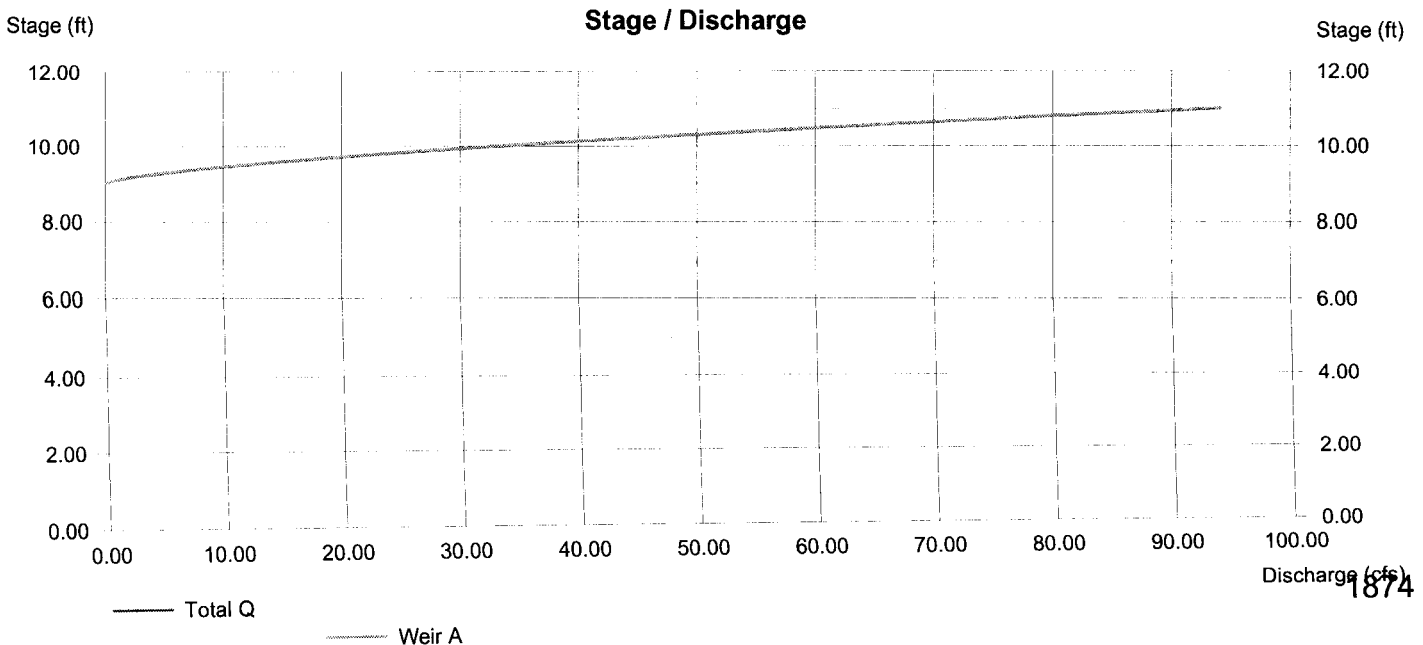
	[A]	[B]	[C]	[D]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 10.00	0.00	0.00	0.00
Crest El. (ft)	= 1354.00	0.00	0.00	0.00
Weir Coeff.	= 3.33	3.33	0.00	0.00
Weir Type	= Cipitl	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control.



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

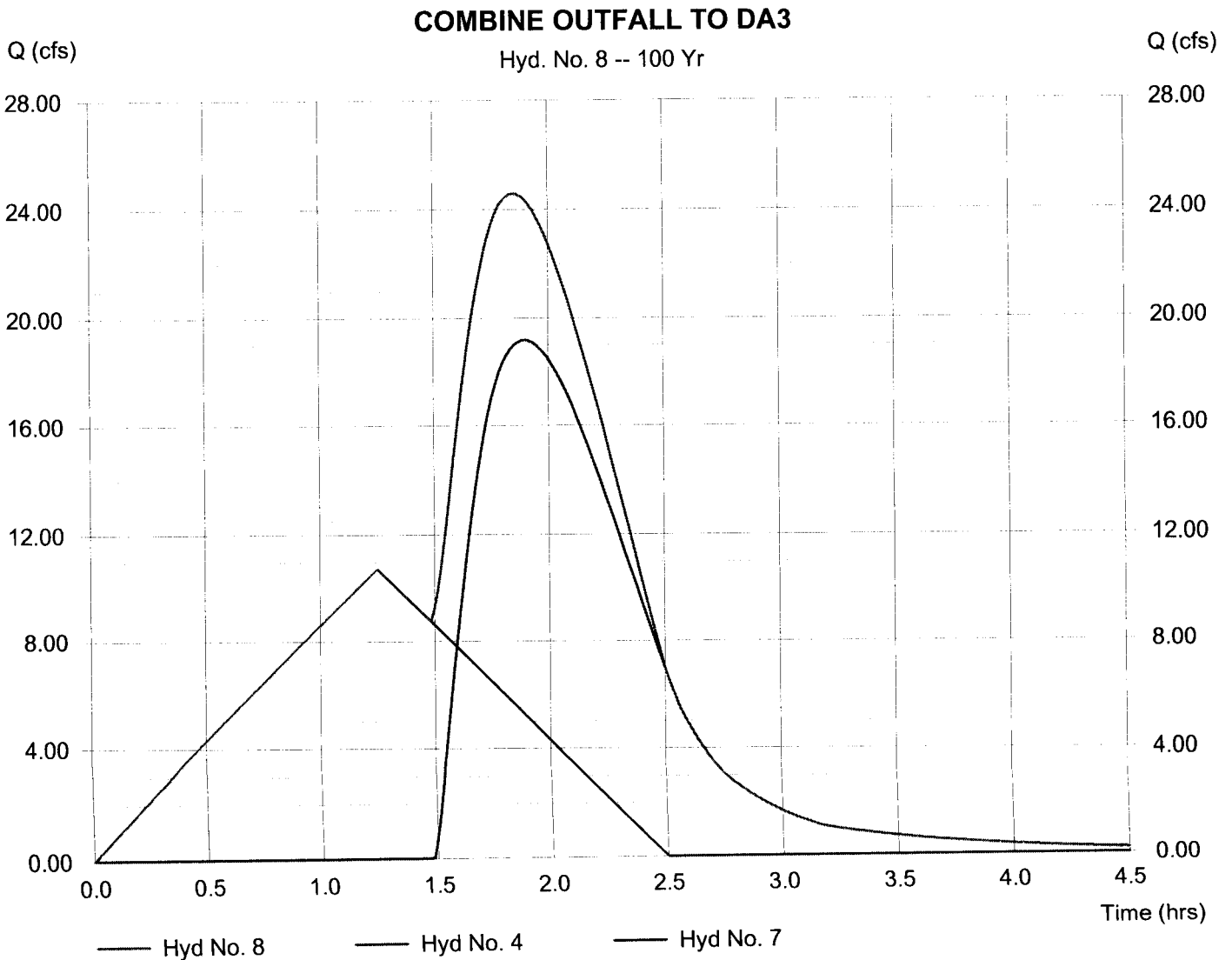
Hyd. No. 8

COMBINE OUTFALL TO DA3

Hydrograph type = Combine
 Storm frequency = 100 yrs
 Inflow hyds. = 4, 7

Peak discharge = 24.57 cfs
 Time interval = 1 min

Hydrograph Volume = 2.467 acft



Hydrograph Plot

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

Hyd. No. 9

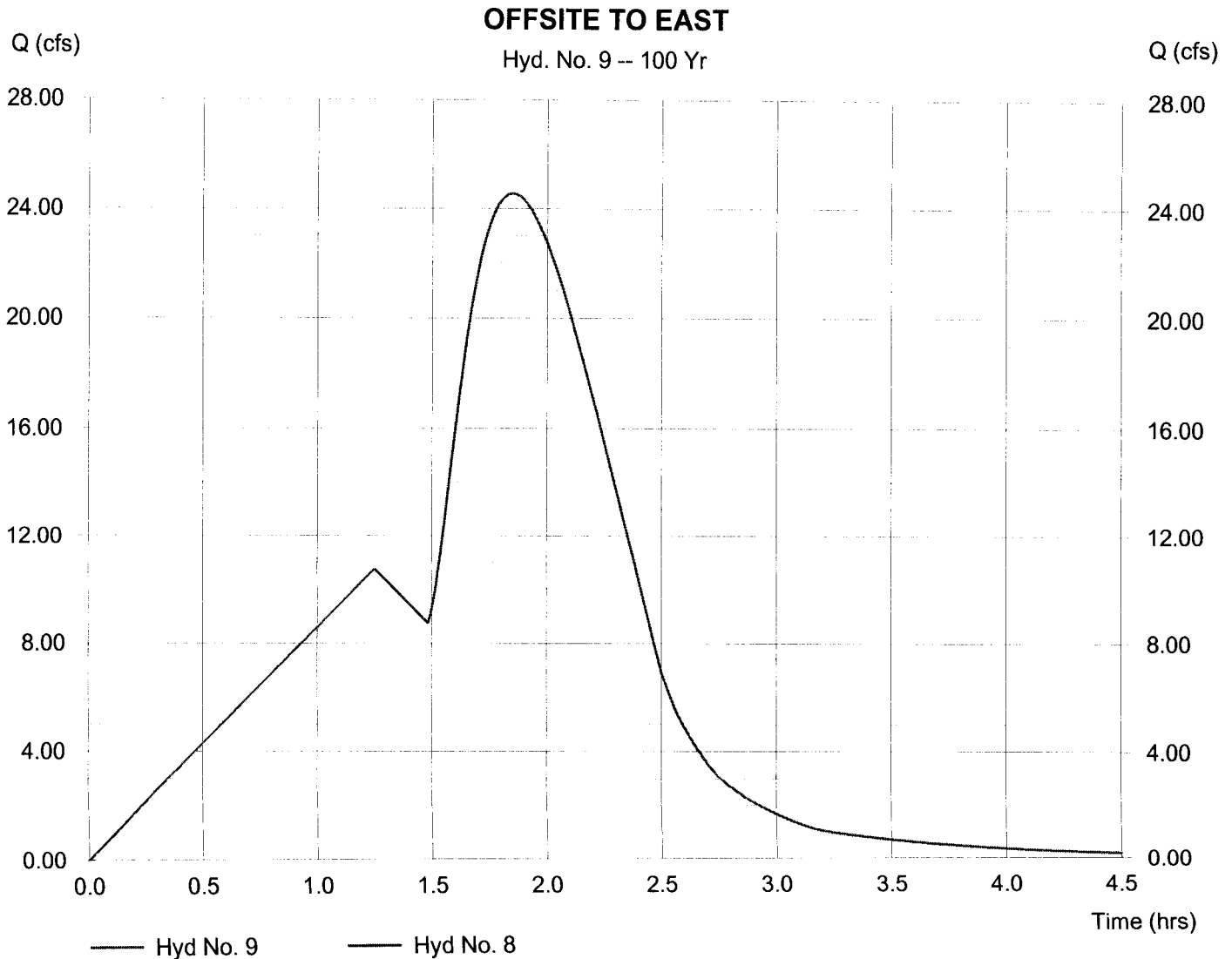
OFFSITE TO EAST

Hydrograph type = Reservoir
Storm frequency = 100 yrs
Inflow hyd. No. = 8
Reservoir name = To Offsite

Peak discharge = 24.57 cfs
Time interval = 1 min
Max. Elevation = 1350.03 ft
Max. Storage = 0.000 acft

Storage Indication method used.

Hydrograph Volume = 2.467 acft



Pond Report

Hydraflow Hydrographs by Intelisolve

Monday, Aug 28 2006, 4:6 PM

Pond No. 2 - To Offsite

Pond Data

Pond storage is based on known contour areas. Average end area method used.

Stage / Storage Table

Stage (ft)	Elevation (ft)	Contour area (sqft)	Incr. Storage (acft)	Total storage (acft)
0.00	1348.50	01	0.000	0.000
1.00	1349.50	01	0.000	0.000
2.00	1350.50	01	0.000	0.000
3.00	1351.50	01	0.000	0.000
4.00	1352.50	01	0.000	0.000

Culvert / Orifice Structures

	[A]	[B]	[C]	[D]
Rise (in)	= 0.00	0.00	0.00	0.00
Span (in)	= 0.00	0.00	0.00	0.00
No. Barrels	= 0	0	0	0
Invert El. (ft)	= 0.00	0.00	0.00	0.00
Length (ft)	= 0.00	0.00	0.00	0.00
Slope (%)	= 0.00	0.00	0.00	0.00
N-Value	= .013	.013	.013	.013
Orif. Coeff.	= 0.60	0.60	0.60	0.60
Multi-Stage	= n/a	No	No	No

Weir Structures

	[A]	[B]	[C]	[D]
Crest Len (ft)	= 5.00	0.00	0.00	0.00
Crest El. (ft)	= 1348.50	0.00	0.00	0.00
Weir Coeff.	= 2.60	0.00	0.00	0.00
Weir Type	= Broad	---	---	---
Multi-Stage	= No	No	No	No

Exfiltration = 0.000 in/hr (Contour) Tailwater Elev. = 0.00 ft

Note: Culvert/Orifice outflows have been analyzed under inlet and outlet control. Weir riser checked for orifice conditions.

